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KRASNIC, BERNARD	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/713,441	LINZER, ELLIOT N.	
	Examiner	Art Unit	
	Bernard Krasnic	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9-13,15,16 and 18-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9-13,15,16 and 18-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. The Request for Continued Examination filed 11/13/2007 have been entered and made of record.

2. The Applicant has canceled claim(s) 8, 14, and 17.

3. The application has pending claim(s) 1-7, 9-13, 15-16, and 18-21.

4. In response to the Request for Continued Examination filed on 11/13/2007:

The "Claim rejections under 35 U.S.C. 112, first paragraph" have been entered and therefore the Examiner withdraws the rejections under 35 U.S.C. 112, first paragraph.

The "Claim rejections under 35 U.S.C. 112, second paragraph" have been entered and therefore the Examiner withdraws the rejections under 35 U.S.C. 112, second paragraph.

5. Applicant's arguments with respect to claim(s) 1-7, 9-13, 15-16, and 18-21 have been considered but are moot in view of the new ground(s) of rejection because of the Request for Continued Examination (RCE).

6. Applicant's arguments filed 11/13/2007 have been fully considered but they are not persuasive.

The Applicant alleges, "In the interest of advancing the prosecution ..." in pages 10-11, and states respectively that one of ordinary skill in the art would have no difficulty understanding that the size and position of the active region could be calculated based on the parameters T, B, L, and R. The Examiner agrees with this assumption that one of ordinary skill in the art would realize such a conclusion given the certain specific parameter information. This is the reason why the 35 U.S.C. 112, first paragraph rejection was withdrawn by the Examiner as stated in page 2 of this Office Action.

The Applicant alleges, "The Office Action alleges that an encoded inactive ..." in page 13, and states respectively that Linzer (US 6,463,102 B1) does not teach how to generate multiple parameters regarding Linzer's encoded inactive region. However the Examiner disagrees because Linzer does teach generating multiple parameters regarding Linzer's encoded inactive region / transition region (see Linzer, Figs. 3 and 5, col. 3, lines 14-17, L and R are the number of black columns on each of the left and right edges, T and B are the number of black rows on each of the top and bottom edges and therefore the multiple parameters are the T, B, L, R which describe the number of rows and columns in the Linzer's encoded inactive region / transition region).

The Applicant alleges, "The Office Action further alleged that a non-visible ..." in page 13, and states respectively that Lumelsky appears to be silent regarding how to generate multiple parameters regarding the non-visible active region / transition region. *The Examiner's intent for including the Lumelsky reference into the rejection was to only further support Linzer in showing that it is <u>really</u> well known in the art to have a transition region*, and it was not the Examiner's intent to include Lumelsky to teach the multiple

parameters for the transition region (Linzer alone teaches the transition region / encoded inactive region along with the multiple parameters T, B, L, R which describe the number of rows and columns in the encoded inactive region as discussed above). Therefore since Linzer already clearly is depicting the transition region / encoded inactive region with the multiple parameters, the Examiner will not include the Lumelsky reference in the rejection which seems to be creating confusion.

The Applicant alleges, "Since the Office has not shown that ..." in pages 13-14, and states respectively that the Vogel, Linzer and/or Lumelsky do not teach or suggest rational basis to conclude that a combination of the references teaches the claim limitation of generating multiple parameters for a transition region and therefore the claim rejection for claims 1 and 10 should be withdrawn. However as discussed above, Linzer does suggest and teach generating multiple parameters for a transition region / encoded inactive region and therefore the combination of Vogel and Linzer do teach the claimed limitations of independent claims 1 and 10. Claims 1 and 10 are still not in condition for allowance.

The Applicant alleges, "Claim 1 further provides that both the first frame and second frame ..." in page 14, and states respectively that the claim limitation of the first frame and the second frame are of a plurality of frames in one video signal is not clearly taught by Vogel because Vogel teaches that the first frame is of a first signal received through an input 31 while the second frame is of a second signal received through an input 32 from another region of a network. However the Examiner disagrees because Vogel does teach one common program material video signal which is broadcast into

the network by antenna 24 (see Vogel, Figs. 2 and 3, paragraph [0029]). The different receivers with time delay decode the single common program material video signal and the regional commercials and correlate the decoded data with a preset threshold; due to the time delay of the single common program material video signal, adjacent frames are compared. Therefore the single common program material video signal with the regional commercials are represented by the two inputs in figure 3 because there is a time delay of this single common program material video signal so adjacent frames of the single common program material video signal could be compared to indicate if a commercial is present or if a program video type is still present. Therefore independent claims 1, 10, and 16 still are not in condition for allowance.

The Applicant alleges, "Claim 1 further provides generating ..." in page 15, and states respectively that Vogel does not suggest generating a signal indicating a first video type / commercial and a second video type / program dependent on the predetermined threshold because Vogel only generates a signal indicating whether the signals are the same of not. However the Examiner disagrees because Vogel clearly states that the comparison using a preset threshold generates a signal indicating presence of a commercial or program (see Vogel, paragraph [0009], lines 6-7, paragraph [0029], lines 6-9). Therefore independent claims 1 and 10 are still not in condition for allowance.

The Applicant alleges, "Nowhere in the above cited text ..." in page 16, and states respectively that Vogel does not teach or suggest determining if two frames of the same video signal are part of an unbroken segment or not. However as discussed

above, Vogel does teach that the antenna 24 broadcasts into the network one common program material video signal with the regional commercials to the receivers which receive the time delayed version and therefore one receiver is looking at frame one of the common program material video signal with the regional commercials while another receiver is looking at frame two of that common program material video signal with regional commercials. Therefore Vogel is determining if two frames of the same video signal / antenna's broadcast of common program material video signal are part of an unbroken segment or not. Therefore claim 1 is still not in condition for allowance.

The Applicant alleges, "Claim 10 further provides ..." in page 17, and states respectively that since no control information can flow into Vogels feature extractors 33 and 34 from the output lines, the output lines cannot control the feature extractors 33 and 34 which therefore does not teach or suggest the claimed limitation of a controller configured to control the first detector circuit and the second detector circuit as recited in claim 10. However the Examiner disagrees because the output lines from extractors 33 and 34 do control the flow of data from the first detector / feature extractors (33, 34) and these output lines do control the flow of data into the second detector / comparator (36); the output lines are the means / controller for correspondence of information between the two components. Therefore the broad claimed limitation is taught by Vogel. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., control information being bi-directional and being able to flow into either the first detector or the second detector) are not recited in the rejected claim(s). Although the

claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The Applicant alleges, "Claim 16 provides determining ..." in page 18, "The Office Action asserts ..." in pages 18-19, "Nowhere in the above cited text ..." in page 19, and "Since the Office Action ..." in page 19, and states respectively that neither Vogel or Linzer teach the rational of calculating the four parameters T, B, L, and R or extracting a size or position of a truly active region of frames. As discussed above, although Vogel does not teach generating multiple parameters, Linzer does teach generating multiple parameters regarding Linzer's encoded inactive region in Figure 3 (see Linzer, Figs. 3 and 5, col. 3, lines 14-17, L and R are the number of black columns on each of the left and right edges, T and B are the number of black rows on each of the top and bottom edges and therefore the multiple parameters are the T, B, L, R which describe the number of rows and columns in the Linzer's encoded inactive region / transition region). Similarly as discussed above, the Examiner removed the 35 U.S.C. 112 first paragraph rejection because the Applicant clearly stated that one of ordinary skill in the art would have no difficulty understanding that the size and position of the active region could be calculated based on the parameters T, B, L, and R (see "In the interest of advancing the prosecution ..." in pages 10-11). Therefore it is obvious to one of ordinary skill in the art to find the size and position of the active region based on the parameters that Linzer teaches. Therefore independent claim 16 is still not in condition for allowance.

The Applicant alleges, "Claim 16 further provides that both ..." in page 20, and states respectively that Vogel does not clearly teach that both the first frame and the second frame are of a plurality of frames in one digital video signal. However as discussed above, Vogel does teach a single common program material video signal and adjacent frame comparison and Linzer does teach generating parameters. To link the Vogel and Linzer references for an understandable rational, the Examiner is introducing the prior art reference Arora (US 2004/0114049 A1). Arora teaches a detector which identifies areas in the single video input that are changing with respect to the *aspect ratio* of the active region which is due to a shift from a program material video content to commercial material video content (see Arora, paragraph [0035], lines 8-11, paragraph [0025], lines 16-18). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Vogel using Arora by including the aspect ratio detector to Vogel's feature extractor in order to provide determination of a program / commercial detection also using the aspect ratio parameter comparison criteria. Linzers teaching of the four parameters would provide Arora's aspect ratio detector an ease by finding the position and size of the active area [the Applicant clearly stated that one of ordinary skill in the art would have no difficulty understanding that the size and position of the active region could be calculated based on the parameters T, B, L, and R (see "In the interest of advancing the prosecution ..." in pages 10-11 of the Applicants arguments)] and therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify Vogel, as modified by Arora,

using Linzers teachings by including the four parameters in order to ease Arora's aspect ratio detector by finding the position and size of the active area.

The Applicant alleges, "Claim 16 further provides (from former claim ..." in pages 20-21, and states respectively that Vogel and Linzer in combination do not appear to teach or suggest generating a signal to indicate a presence of the scene transition between the commercial and the program when at least one of the first size and the first position of the first truly active region is not substantially similar to a corresponding at least one of the second size and the second position of the second truly active region. As discussed above, the combination of Vogel, Arora, and Linzer suggest generating a signal indicating a scene change dependent on the size / aspect ratio and position / T, B, L, R of the truly active regions. Therefore, claim 16 is still not in condition for allowance.

The Applicant alleges, "Furthermore, Linzer remains as non-analogous art ..." in pages 21-22 through "Furthermore, the assertion in the Office Action ..." in page 23, and states respectively that Linzer is non-analogous art relative to Vogel and that the motivation for the 35 U.S.C. 103 used in regard to the Vogel and Linzer reference are not supported by any evidence or rational but improper hindsight. As discussed above, the Arora reference is used to produce an understandable rational for linking the Vogel and Linzer references where Arora teaches a detector which identifies areas in the single video input that are changing with respect to the *aspect ratio* of the active region which is due to a shift from a program material video content to commercial material video content and Linzers teaching of the four parameters would provide Arora's aspect

ratio detector an ease by finding the position and size of the active area. Therefore Vogel and Arora both deal with finding commercials and Arora and Linzer both deal with determining aspect ratio / size and position of the truly active region making the three references analogous to each other with no type of improper use of hindsight as the Applicant seems to think the Examiner is using. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

The Applicant alleges, "Furthermore, Lumelsky ..." in pages 23-24 and "Furthermore, no evidence of motivation is ..." in page 24, and states respectively that Lumelsky is non-analogous art relative to Vogel and Linzer. The Examiner disagrees but because the Lumelsky reference is not used in this Office Action, further discussions will not be addressed by the Examiner with regard to Lumelsky.

The Applicant alleges, "Claim 20 provides generating ..." in pages 24-25 through "Since all of Vogel, Hua and Wright ..." in pages 25-26, and states respectively that Vogel, Hua and Wright are content dependent toward the parameter determination and not content independent as the claim limitations of claim 21 recite. The Examiner agrees with the Applicants rational that Vogel and Hua are content dependent toward

the parameter determination, but the Examiner disagrees that Wright is content dependent toward the parameter determination because Wright teaches that the SID, the date and time stamp which are used to detect if time compression has occurred are encoded into the content so that when Wrights decoding [similar to Vogels feature extraction].took place, the SID, date and time stamp could be extracted for analysis. Therefore it is not content dependent parameter data as the Applicant tends to claim; paragraph [0014] of Wright only states that in addition, the SID may further include content identification codes. But to expedite prosecution for easier understanding, the Examiner will use the Arora reference instead of the Wright reference to show content independent parameter determination where Arora teaches that the parameters are the aspect ratio [aspect ratio definitely is content independent because it only describes the dimensions or size] of the active region and that using these parameters distinguishes between commercial material and program material. Therefore further arguments toward Wright will not be explored by the Examiner.

The Applicant alleges, "Furthermore, the assertion in the Office Action ..." in pages 27-28, and states respectively that the motivation to combine Vogel and Hua does not explicitly establish an apparent reason why one of ordinary skill in the art would have combined Vogel and Hua. The Examiner disagrees because Hua explicitly discloses the apparent reason is to avoid viewing/recording commercial content. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning.

But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Therefore claims 1-7, 9-13, 15-16, and 18-21 are still not in condition for allowance because they are still not patentably distinguishable over the prior art references.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-6, 9-13, 15-16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vogel (US 2003/0145320 A1, as applied in previous Office Action), in view of Arora (US 2004/0114049 A1) and further in view of Linzer (US 6,463,102 B1, as applied in previous Office Action).

Re Claim 1: Vogel discloses a method for classifying a first video type / commercial and a second video type / television program in one video signal / one common program material television signal [broadcast from antenna 24] having a plurality of frames (see abstract, lines 1-2, paragraph [0009], paragraph [0031], lines 1-11), comprising of (A) generating a plurality of first parameters / feature extractor (33) in a first of said frames /

picture (see Fig. 3, paragraph [0031], lines 1-11, paragraphs [0009] and [0029]); (B) generating a plurality of second parameters / feature extractor (34) in a second of said frames / delayed picture, wherein said second frame follows said first frame (this delay could be any time delay and is understood to be a delay of one to a number of frames) (see Fig. 3, paragraph [0031], lines 1-11, paragraphs [0009] and [0029]); (C) comparing / comparator (36) said first parameters [output of 33] with said second parameters [output of 34] to generate a comparison value / comparator of the two feature extractors (see Fig. 3, paragraph [0031], lines 1-11, paragraphs [0009], [0006], [0008] and [0013]); and (D) generating a signal indicating / commercial presence indicating signal (see paragraphs [0006], [0009], and [0029]) (i) said first video type / commercial when said comparison value is greater than a predetermined threshold / preset threshold (see Fig. 3, paragraphs [0009] and [0029], paragraph [0031], lines 1-11) and (ii) said second video type / television program when said comparison value is less than said predetermined threshold (if it isn't a commercial, it is just continuing television program), wherein said predetermined threshold / preset threshold determines if said first frame and said second frame are part of an unbroken segment (see paragraphs [0009] and [0029], paragraph [0031], lines 1-11, the preset threshold determines if the first and the second frames are the same using a comparator which tell if it is part of an unbroken segment such as part of a program material).

However, Vogel fails to disclose or suggest the parameters defining the transition portion between an active portion and a blank portion for the first and second frames [Vogel discloses the two frames].

Arora discloses a detector which identifies areas in the single video input (105) that are changing with respect to the parameters / aspect ratio of the active region / video content (115) which is due to a shift from a program material video content to commercial material video content (see Arora, paragraph [0035], lines 8-11, paragraph [0025], lines 16-18, a comparison is made meaning that different frames [adjacent frames] are compared to determine a change in video content); the transition portion / black bar (117, 118).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Vogel's method using Arora's teachings by including the aspect ratio detector to Vogel's feature extractor in order to provide determination of a program / commercial detection using the aspect ratio parameter comparison criteria (see Arora, paragraph [0035], lines 8-11).

However, Vogel as modified by Arora still fails to specifically suggest the parameters defining the transition portion between an active portion and a blank portion for the frames.

Linzer discloses generating a plurality of parameters [number of rows and columns in the encoded inactive region] defining a transition / encoded inactive region portion between an active portion / encoded active region and a blank portion / inactive region in said frame (see Linzer, Figs. 3 and 5, col. 3, lines 14-17, L and R are the number of black columns on each of the left and right edges, T and B are the number of black rows on each of the top and bottom edges and therefore the multiple parameters

are the T, B, L, R which describe the number of rows and columns in the encoded inactive region / transition region).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Vogel's method, as modified by Arora, using Linzer's teachings by including the knowledge of knowing the number of black rows and columns in the transition regions [number of black rows and columns in the different Top-T region, Bottom-B region, Left-L region, and Right-R region of the transition region] in the frame to Arora's aspect ratio detector in order to ease Arora's aspect ratio detector by finding the size of the active area / video content (knowing the dimensions of the parameters T, B, L, R, and the frame size, it is obvious to one of ordinary skill in the art to find the position and size of the active area [see "In the interest of advancing the prosecution ..." in pages 10-11 of the Applicants arguments filed on 11/13/2007 where the applicant states it would be obvious]). The result of the Vogel, Arora, and Linzer combination would be completely predictable in that Vogel's commercial/program detector would operate using Arora's aspect ratio which could easily be found using Linzer's parameters, instead of operating using Vogel's basic content comparison between two adjacent frames. The obviousness rationale advanced hereinabove is consistent with the criteria articulated in *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007).

Re Claim 2: Vogel further discloses (i) said first video type comprises a commercial / commercial and (ii) said second video type comprises a program / television program (see abstract, lines 1-2, paragraph [0031], lines 1-11).

Re Claim 3: Linzer further discloses wherein said first parameters (Vogel first feature extractor 33 as modified by Arora's aspect ratio detector) comprise (i) a first T parameter that represents a first number of top lines in said first transition portion, (ii) a first B parameter that represents a first number of bottom lines in said first transition portion, (iii) a first L parameter that represents a first number of left columns in said first transition portion, and (iv) a first R parameter that represents a first number of right columns in said first transition portion (see Linzer, Figs. 2-3 and 5, col. 3, lines 14-17, L and R are the number of black columns on each of the left and right edges, T and B are the number of black rows on each of the top and bottom edges).

Re Claim 4: Linzer further discloses said first (Vogels first frame from 33 as modified by Arora's aspect ratio detector) transition portion comprises a plurality of pixels with no materially non-black content (see Figs. 2-3 and 5, col. 3, lines 14-17, no material non-black content is basically black content and Linzer's transition / encoded inactive region is basically black content). Arora also discloses the transition portion / black bar [117, 118] is basically black content.

Re Claim 5: Linzer further discloses said second parameters (Vogels second feature extractor 34 as modified by Arora's aspect ratio detector) comprise (i) a second T parameter that represents a second number of top lines in said second transition portion, (ii) a second B parameter that represents a second number of bottom lines in said second transition portion, (iii) a second L parameter that represents a second number of left columns in said second transition portion, and (iv) a second R parameter that represents a second number of right columns in said second transition portion (see Linzer, Figs. 2-3 and 5, col. 3, lines 14-17, L and R are the number of black columns on each of the left and right edges, T and B are the number of black rows on each of the top and bottom edges).

Re Claim 6: Linzer further discloses said second (Vogels second frame from 34 as modified by Arora's aspect ratio detector) transition portion comprises a plurality of pixels with no materially non-black content (see Figs. 2-3 and 5, col. 3, lines 14-17, no material non-black content is basically black content and Linzer's transition / encoded inactive region is basically black content). Arora also discloses the transition portion / black bar [117, 118] is basically black content.

Although Vogel, as modified by Arora and Linzer, doesn't specifically disclose, as recited in claim 9, said video signal comprises a digital video signal, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have such a feature where the video signal is a digital video signal because Vogel's television

video signal is described as being received from a satellite, requiring bandwidth, and being transported by modems (see paragraph [0022] and [0023]), which are typical components of a digital video system.

Re Claim 10: Vogel discloses an apparatus / commercial detector comprising a first detector circuit / feature extractor (33,34) configured to generate (i) a plurality of first parameters / feature extractor in a first frame / picture of one video signal / one common program material television signal [broadcast from antenna 24] having a plurality of frames (see Fig. 3, paragraph [0031], lines 1-11, abstract, lines 1-2, paragraph [0009]) and (ii) a plurality of second parameters / feature extractor (34) in a second frame / delayed picture of said video signal, wherein said second frame follows said first frame (the second frame or the delayed picture could be any time delay and is understood to be a delay of one to a number of frames) (see Fig. 3, paragraph [0031], lines 1-11, paragraphs [0009] and [0029]); a second detector circuit / comparator (36) configured to (i) generate a comparison value / comparator of the two feature extractors by comparing said first parameters [output of 33] with said second parameters [output of 34] (see Fig. 3, paragraph [0031], lines 1-11, paragraphs [0009], [0006], [0008], [0013] and [0015]) and (ii) generate a signal indicating / signal indicating commercial or program presence (a) a first video type / commercial when said comparison value is greater than a predetermined threshold / preset threshold (see Fig. 3, paragraph [0031], lines 1-11, paragraphs [0009], [0029], and [0015]) and (b) a second video type / television program when said comparison value is less than said predetermined threshold (if it isn't a

commercial, it is just continuing television program); and a controller / output lines from extractors 33 and 34 (i) connected between said first detector circuit / feature extractors (33,34) and said second detector circuit / comparator (36) and (ii) configured to control / control flow of data said first detector circuit and said second detector circuit (the controller is understood to be the connector shown as a line which connects components 33 and 34 to 36 as shown in Fig. 3, the output lines from extractors 33 and 34 do control the flow of data from the first detector / feature extractors 33 and 34 and these output lines do control the flow of data into the second detector / comparator 36 by being the means / controller for correspondence of instructions and information between the two components).

However, Vogel fails to disclose or suggest the parameters defining the transition portion between an active portion and a blank portion for the first and second frames [Vogel discloses the two frames].

Arora discloses a detector which identifies areas in the single video input (105) that are changing with respect to the parameters / aspect ratio of the active region / video content (115) which is due to a shift from a program material video content to commercial material video content (see Arora, paragraph [0035], lines 8-11, paragraph [0025], lines 16-18, a comparison is made meaning that different frames [adjacent frames] are compared to determine a change in video content); the transition portion / black bar (117, 118).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Vogel's method using Arora's teachings by

including the aspect ratio detector to Vogel's feature extractor in order to provide determination of a program / commercial detection using the aspect ratio parameter comparison criteria (see Arora, paragraph [0035], lines 8-11).

However, Vogel as modified by Arora still fails to specifically suggest the parameters defining the transition portion between an active portion and a blank portion for the frames.

Linzer discloses generating a plurality of parameters [number of rows and columns in the encoded inactive region] defining a transition / encoded inactive region portion between an active portion / encoded active region and a blank portion / inactive region in said frame (see Linzer, Figs. 3 and 5, col. 3, lines 14-17, L and R are the number of black columns on each of the left and right edges, T and B are the number of black rows on each of the top and bottom edges and therefore the multiple parameters are the T, B, L, R which describe the number of rows and columns in the encoded inactive region / transition region).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Vogel's method, as modified by Arora, using Linzer's teachings by including the knowledge of knowing the number of black rows and columns in the transition regions [number of black rows and columns in the different Top-T region, Bottom-B region, Left-L region, and Right-R region of the transition region] in the frame to Arora's aspect ratio detector in order to ease Arora's aspect ratio detector by finding the size of the active area / video content (knowing the dimensions of the parameters T, B, L, R, and the frame size, it is obvious to one of

ordinary skill in the art to find the position and size of the active area [see "In the interest of advancing the prosecution ..." in pages 10-11 of the Applicants arguments filed on 11/13/2007 where the applicant states it would be obvious]). The result of the Vogel, Arora, and Linzer combination would be completely predictable in that Vogel's commercial/program detector would operate using Arora's aspect ratio which could easily be found using Linzer's parameters, instead of operating using Vogel's basic content comparison between two adjacent frames. The obviousness rationale advanced hereinabove is consistent with the criteria articulated in *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007).

Although the first detector circuit or the feature extractor of Vogel as modified by Arora and Linzer's (T,B,L,R) four parameters as discussed in claims 3 and 5 above is not specifically disclosed, as recited in claim 11, as a 4-set detector, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have such a feature of a 4-set detector because Vogel's detector circuit or feature extractor as modified by Arora's aspect ratio detector and Linzer will need a 4-set detector to establish the four parameters (T,B,L,R) used in Vogel's comparator as modified by Arora and Linzer to indicate the presence of a commercial.

Re Claim 12: Vogel further discloses said second detector circuit comprises a segment detector / commercial signature (45) configured to receive said second parameters following receipt of said first parameters (see Fig. 4, paragraphs [0009], [0020] and

[0033]-[0035], the processor uses the received feature extractor data along with the stored [memory 46] signatures of commercials to detect the commercial segments, paragraphs [0009] and [0029], paragraph [0031], lines 1-11, the preset threshold determines if the first and the second frames are the same using a comparator which tell if it is part of an unbroken segment such as part of a commercial material).

Re Claim 13: Vogel further discloses said first detector circuit / feature extractor (33, 34) generates said first parameters / feature extractor of first frame (33) and said second parameters / feature extractor of second frame (34) in response to (i) a threshold signal / bandwidth limit and (ii) one or more samples / reduction of picture from said frames (see Fig. 3, paragraph [0031], lines 1-11, the feature extractor extracts a 64 pixel picture by reducing a larger picture by using the samples or pixels of the larger picture, the reduction is done to satisfy the bandwidth limit which is needed).

Re Claim 15: Vogel further discloses a change in said signal indicates / signal indicating commercial or program presence a transition between a first program type / commercial and a second program type / television program (see paragraph [0031], lines 1-11, paragraph [0009]).

Re Claim 16: Vogel discloses a method / commercial detector for distinguishing between a commercial and a program in one digital video signal / one common program material television signal [broadcast from antenna 24] having a plurality of frames (see

abstract, lines 1-2, paragraph [0009], paragraph [0031], lines 1-11, paragraphs [0022] and [0023], television signals sent by satellite, requiring bandwidth, and being transported by modems are typical components of a digital video system), comprising the steps of (A) determining / feature extractor (33) a first truly active region of first frame (33) in a first of said frames; (B) determining / feature extractor (34) a second truly active region in a second of said frames of a second truly active region of second frame (34) in a second of said frames, wherein said second frame follows said first frame (the second frame or the delayed picture could be any time delay and is understood to be a delay of one to a number of frames) (see Fig. 3, paragraph [0031], lines 1-11, paragraphs [0009], [0029], [0006], [0008], [0013], [0031] and [0015]); and (C) generating a signal / signal indicating presence of a commercial or program signature to indicate (i) a lack of a scene transition / no change in presence signature between said commercial and said program when both / extracted features (33) of said first truly active region are substantially similar to both / extracted features (34) of said second truly active region (see Fig. 3, paragraph [0031], lines 1-11, paragraphs [0006], [0009] and [0020], when the two extracted features are the same, there is no change in the signal indicator whereas if the two extracted features are not the same, the signal indicator changes); and (ii) a presence of said scene transition / change in presence signature between said commercial and said program when at least one / extracted feature of said first truly active region [Vogel's feature extractor 33] is not substantially similar / they differ in comparator (36) to a corresponding at least one / extracted feature

of said second truly active region [Vogel's feature extractor 34] (see [0009], a change is present when the two features of the frames are different).

However, Vogel fails to disclose or suggest that the extracted features are the size and position of the truly active region for the first and second frames [Vogel discloses the two frames].

Arora discloses a detector which identifies areas in the single video input (105) that are changing with respect to the size parameters / aspect ratio of the active region / video content (115) which is due to a shift from a program material video content to commercial material video content (see Arora, paragraph [0035], lines 8-11, paragraph [0025], lines 16-18, a comparison is made meaning that different frames [adjacent frames] are compared to determine a change in video content).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Vogel's method using Arora's teachings by including the aspect ratio / size detector to Vogel's feature extractor in order to provide determination of a program / commercial detection using the aspect ratio parameter comparison criteria (see Arora, paragraph [0035], lines 8-11).

However, Vogel as modified by Arora still fails to disclose or suggest that the extracted features are the position of the truly active region for frames.

Linzer discloses a truly active region / encoded active region and calculating the four parameters T, B, L, R (see Linzer, Figs. 3 and 5, col. 3, lines 14-17, L and R are the number of black columns on each of the left and right edges, T and B are the number of black rows on each of the top and bottom edges and therefore the multiple parameters

are the T, B, L, R which describe the number of rows and columns in the encoded active and inactive region / transition region, these T, B, L, R parameters result in the outcome of generating the size and position of the truly active region [the Applicant clearly stated that one of ordinary skill in the art would have no difficulty understanding that the size and position of the active region could be calculated based on the parameters T, B, L, and R {see "In the interest of advancing the prosecution ..." in pages 10-11 of the Applicants arguments}]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Vogel's method, as modified by Arora, using Linzer's teachings by including the knowledge of knowing the number of black rows and columns in the transition regions [number of black rows and columns in the different Top-T region, Bottom-B region, Left-L region, and Right-R region of the transition region] in the frame to Arora's aspect ratio detector in order to ease Arora's aspect ratio detector by finding the size and position of the active area / video content (knowing the dimensions of the parameters T, B, L, R, and the frame size, it is obvious to one of ordinary skill in the art to find the position and size of the active area [see "In the interest of advancing the prosecution ..." in pages 10-11 of the Applicants arguments filed on 11/13/2007 where the applicant states it would be obvious]). The result of the Vogel, Arora, and Linzer combination would be completely predictable in that Vogel's commercial/program detector would operate using Arora's aspect ratio which could easily be found using Linzer's parameters, instead of operating using Vogel's basic content comparison between two adjacent frames. The obviousness

rationale advanced hereinabove is consistent with the criteria articulated in *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007).

Re Claim 18: Vogel further discloses generating a first segment signature / program signature associated with said first frame where said scene transition represents a change from said program to said commercial; and generating a second segment signature / commercial signature associated with said second frame (see paragraphs [0009] and [0029], paragraph [0031], lines 1-11, if the first and second frames have different extracted features, then it shows that there is a change from a program signature to a commercial signature, the preset threshold determines if the first and the second frames are the same using a comparator which tell if it is part of an unbroken segment such as part of a program material).

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vogel as modified by Arora and Linzer as applied to claims 1, 3, and 5 above, and further in view of McGee et al (US 2003/0117530 A1, as applied in previous Office Action). The teachings of Vogel as modified by Arora and Linzer have been discussed above.

However, Vogel as modified by Arora and Linzer fails to disclose or fairly suggest that the comparison is made by using the sum of the absolute value of the difference between parameters of two frames.

McGee discloses comparing (A) a sum of (i) a first absolute value of a first difference between said first T parameter and said second T parameter plus (ii) a second absolute value of a second difference between said first B parameter and said second B parameter plus (iii) a third absolute value of a third difference between said first L parameter and said second L parameter plus (iv) a fourth absolute value of a fourth difference between said first R parameter and said second R parameter with (B) said predetermined threshold (see Fig. 3, equation $D = \sum_{i=1}^{N} |H_C(i) - H_p(i)|$ under paragraph [0034], this equation teaches the sum of the absolute value of the difference between the parameters of two frames being used for the detection of a commercial).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Vogel's method, as modified by Arora and Linzer, using McGee's teachings by including a sum of the absolute value of the difference between the parameters of the two frames to Vogel's comparator, as modified by Arora and Linzer, as the value to be compared to the preset threshold in order to enhance the comparison by calculating a match and detection using a higher order algorithm.

10. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vogel as modified by Arora and Linzer as applied to claims 16 and 18 above, and further in view of Hua et al (US 2004/0161154 A1, as applied in previous Office Action). The teachings of Vogel as modified by Arora and Linzer have been discussed above.

However, Vogel as modified by Arora and Linzer still fails to specifically suggest an implementation of a commercial advance and skip.

Hua discloses implementing a commercial advance by skipping said frames having said second segment signature / commercial signature; and returning from said commercial advance when said frames have said first segment signature / program signature (see abstract, lines 3-6, paragraph [0005], lines 1-3, paragraph [0018], lines 10-18, paragraph [0019], the second segment signatures are used to skip commercials and return to the first segment signature or program in order to merge and generate non-commercial blocks of content and in order to avoid viewing/recording commercial content).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Vogel's method and system, as modified by Linzer using Hua's teachings by including the capability to skip and advance through segments in order to provide a merge and generation of commercial and non-commercial blocks of content and avoid viewing/recording commercial content (see Hua, paragraph [0005], lines 1-3).

11. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vogel in view of Hua and further in view of Arora.

Re Claim 20: Vogel discloses a method / commercial detector for segmenting / signature one video signal / one common program material television signal [broadcast

from antenna 24] into a plurality of program segments and a plurality of commercial segments (see abstract, lines 1-2, paragraph [0009], paragraph [0031], lines 1-11), comprising the steps of (A) generating a plurality of first parameters / feature extractor (33) (see Fig. 3, paragraph [0031], lines 1-11, paragraphs [0009] and [0029]); (C) generating a plurality of second parameters / feature extractor (34) (see Fig. 3, paragraph [0031], lines 1-11, paragraphs [0009] and [0029]); (D) comparing / comparator (36) said second parameters (34) to said first parameters (33) (see Fig. 3, paragraph [0031], lines 1-11, paragraph [0009]); and (E) classifying said second segment / signature as a program as one of said program segments where said first parameters (33) and said second parameters (34) are substantially similar / not different (see Fig. 3, paragraph [0031], lines 1-11, paragraphs [0006], [0009], [0029] and [0020], if they are different an indication of a commercial is made but if it isn't a commercial, it is just a television program, the preset threshold determines if the first and the second frames are the same using a comparator which tell if it is part of an unbroken segment such as part of a program material).

However, Vogel fails to specifically disclose that the first and second parameters defining a signature for a first and second program segment of a first segment of said program segments independent of a content of said first segment.

Hua discloses that (A) the first set of parameters define a signature for a first program segment; (B) detecting the end of said first program segment; and (C) the second set of parameters define a signature for a second segment (see abstract, lines 3-6, paragraph [0005], lines 1-3, paragraph [0018], lines 10-18, paragraph [0019], Hua

uses segment signatures as the parameters and it is using these segment signatures that detect and define a commercial or a program segment which allow for the further process of merging and generating segments of commercial or non-commercial blocks of content through comparison with threshold criteria and in order to avoid viewing/recording commercial content).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Vogel's method using Hua's teachings by replacing Vogel's feature extractor parameters with Hua's signature for a first and second segment parameters in order to provide a merge and generation of commercial and non-commercial blocks of content and avoid viewing/recording commercial content (see Hua, paragraph [0005], lines 1-3).

However, Vogel in view of Hua still fails to specifically suggest content independency.

Arora discloses a detector which identifies areas in the single video input (105) that are changing with respect to the parameters / aspect ratio of the active region / video content (115) which is due to a shift from a program material video content to commercial material video content (see Arora, paragraph [0035], lines 8-11, paragraph [0025], lines 16-18, a comparison is made meaning that different frames [adjacent frames] are compared to determine a change in video content using the content independent aspect ratio).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Vogel's method using Arora's teachings by

including the aspect ratio detector to Hua's segment parameters in order to provide determination of a program / commercial detection using the content independent aspect ratio parameter comparison criteria (see Arora, paragraph [0035], lines 8-11). The result of the Vogel, Hua, and Arora combination would be completely predictable in that Vogel's commercial/program detector would operate using Hua's segment blocks and Arora's aspect ratio, instead of operating using Vogel's basic content comparison between two adjacent frames [Vogel, Hua and Arora are analogous to each other because all three deal with commercial detection]. The obviousness rationale advanced hereinabove is consistent with the criteria articulated in *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007).

Re Claim 21: Hua further discloses said second parameters indicate a start of active video content (see abstract, lines 3-6, paragraph [0018], lines 10-18, paragraph [0019], Hua uses segment signatures as the parameters and it is using these segment signatures that detect and define a start and end of a commercial or a program segment which allow for the further process of merging and generating segments of commercial or non-commercial blocks of content through comparison with threshold criteria).

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Krasnic whose telephone number is (571) 270-

1357. The examiner can normally be reached on Mon-Thur 8:00am-4:00pm and every other Friday 8:00am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Bernard Krasnic
December 27, 2007

JINGGE WU
SUPERVISORY PATENT EXAMINER